CLAIMS

1. Palovarotene ((E)-4-(2-{3-[(1H-pyrazole-1-yl)methyl]-5,5,8,8 tetramethyl-5,6,7,8-tetrahydronaphthalene-2-yl}vinyl)benzoic acid), or a pharmaceutically acceptable salt thereof, for use in inhibiting the formation of an osteochondroma in a subject with multiple osteochondroma (MO), the use comprising administering palovarotene ((E)-4-(2-{3-[(1H-pyrazole-1-yl)methyl]-5,5,8,8 tetramethyl-5,6,7,8-tetrahydronaphthalene-2-yl}vinyl)benzoic acid), or a pharmaceutically acceptable salt thereof, to the subject in an amount effective to inhibit the formation of the osteochondroma.

2. Palovarotene ((E)-4-(2-{3-[(1H-pyrazole-1-yl)methyl]-5,5,8,8 tetramethyl-5,6,7,8-tetrahydronaphthalene-2-yl}vinyl)benzoic acid), or a pharmaceutically acceptable salt thereof, for use in reducing the size of an osteochondroma in a subject with MO, the use comprising administering palovarotene ((E)-4-(2-{3-[(1H-pyrazole-1-yl)methyl]-5,5,8,8 tetramethyl-5,6,7,8-tetrahydronaphthalene-2-yl}vinyl)benzoic acid), or a pharmaceutically acceptable salt thereof, to the subject in an amount effective to reduce the size of the osteochondroma.

3. Palovarotene ((E)-4-(2-{3-[(1H-pyrazole-1-yl)methyl]-5,5,8,8 tetramethyl-5,6,7,8-tetrahydronaphthalene-2-yl}vinyl)benzoic acid), or a pharmaceutically acceptable salt thereof, for use in slowing the growth of an osteochondroma in a subject with MO, the use comprising administering palovarotene ((E)-4-(2-{3-[(1H-pyrazole-1-yl)methyl]-5,5,8,8 tetramethyl-5,6,7,8-tetrahydronaphthalene-2-yl}vinyl)benzoic acid), or a pharmaceutically acceptable salt thereof, to the subject in an amount effective to slow the growth of the osteochondroma.

4. Palovarotene for use according to claim 2, wherein the use reduces the average size of osteochondromas in the subject.

5. Palovarotene for use according to any one of claims 1-4, wherein the osteochondroma is formed adjacent to an area of bone growth; or wherein the osteochondroma is formed adjacent to a growth plate; or wherein the osteochondroma is formed on a perichondrium, optionally wherein the osteochondroma is formed on the groove of Ranvier of the perichondrium; or wherein the osteochondroma is formed on an epiphysis of a bone; or wherein the osteochondroma is formed on a long bone, optionally wherein the osteochondroma is formed at an end of the long bone; or wherein the osteochondroma is formed on a flat bone; or wherein the osteochondroma is formed on a hip bone, a shoulder blade, a rib, a femur, a tibia, a humerus, a fibula, a pelvic bone, or a vertebrate; or wherein the osteochondroma is formed on the surface of a bone; or wherein the osteochondroma is formed in the diaphysis of a bone.

6. Palovarotene for use according to any one of claims 1-5, wherein the use reduces the number of osteochondromas in the subject; and/or wherein the use reduces the number of bones that have at least one osteochondroma in the subject.

7. Palovarotene ((E)-4-(2-{3-[(1H-pyrazole-1-yl)methyl]-5,5,8,8 tetramethyl-5,6,7,8-tetrahydronaphthalene-2-yl}vinyl)benzoic acid), or a pharmaceutically acceptable salt thereof, for use in reducing cartilage hyperplasia in a subject with MO, the use comprising administering palovarotene ((E)-4-(2-{3-[(1H-pyrazole-1-yl)methyl]-5,5,8,8 tetramethyl-5,6,7,8-tetrahydronaphthalene-2-yl}vinyl)benzoic acid), or a pharmaceutically acceptable salt thereof, to the subject in an amount effective to reduce the cartilage hyperplasia.

8. Palovarotene for use according to claim 1 or 7, wherein the subject does not have an osteochondroma.

9. Palovarotene for use according to any one of claims 1-8, wherein the amount of palovarotene administered to the subject is between 0.5 and 9 mg daily, optionally wherein the subject weighs from 5 to 20 kg; or wherein the amount of palovarotene administered to the subject is between 0.5 and 12 mg daily, optionally wherein the subject weighs from 20 to 40 kg; or wherein the amount of palovarotene administered to the subject is between 0.5 and 15 mg daily, optionally wherein the subject weighs from 40 to 60 kg; or wherein the amount of palovarotene administered to the subject is between 0.5 and 20 mg daily, optionally wherein the subject weighs more than 60 kg.

10. Palovarotene for use according to any one of claims 1-9, wherein the subject is a child or an adolescent who is not fully grown.

11. Palovarotene for use according to claim 10, wherein the child or adolescent has not achieved full skeletal maturity.

12. Palovarotene for use according to any one of claims 1-11, wherein long bone growth of the subject is maintained while the subject is treated.

13. Palovarotene for use according to any one of claims 1-12, wherein the use does not cause any damage to the growth plate of the subject while the subject is treated.

14. Palovarotene for use according to any one claims 1-13, wherein the use does not interfere with the normal bone growth of the subject.

15. Palovarotene for use according to any one of claims 1-14, wherein the use reduces bone morphogenic protein (BMP) level and/or BMP signaling in a perichondrium of the subject, optionally wherein the use reduces BMP level and/or BMP signaling in the groove of Ranvier of the perichondrium of the subject.

16. Palovarotene for use according to any one of claims 1-15, wherein the use reduces BMP level and/or BMP signaling in an epiphysis of a bone of the subject.

17. Palovarotene for use according to any one of claims 1-16, wherein the use reduces BMP level and/or BMP signaling in an overgrown cartilage of the subject.

18. Palovarotene for use according to any one of claims 1-17, wherein the subject has a mutant exostosin gene, optionally wherein the mutant exostosin gene is a mutant Ext1, Ext2, or Ext3 gene.

19. Palovarotene for use according to any one of claims 1-18, wherein the subject weighs from 5 to 20 kg and the amount of palovarotene administered to the subject is between 1.0±0.5 and 3.0±0.5 mg daily; or wherein the subject weighs from 10 to 20 kg and the amount of palovarotene administered to the subject is between 1.0±0.5 and 3.0±0.5 mg daily; or wherein the subject weighs from 10 to 20 kg and the amount of palovarotene administered to the subject is 1.0±0.1 mg daily; or wherein the subject weighs from 10 to 20 kg and the amount of palovarotene administered to the subject is 2.5±0.25 mg daily; or wherein the subject weighs from 20 to 40 kg and the amount of palovarotene administered to the subject is between 1.0±0.5 and 4.0±0.5 mg daily; or wherein the subject weighs from 20 to 40 kg and the amount of palovarotene administered to the subject is 1.5±0.15 mg daily; or wherein the subject weighs from 20 to 40 kg and the amount of palovarotene administered to the subject is 3.0±0.3 mg daily; or wherein the subject weighs from 40 to 60 kg and the amount of palovarotene administered to the subject is between 2.0±0.5 and 5.0±0.5 mg daily; or wherein the subject weighs from 40 to 60 kg and the amount of palovarotene administered to the subject is 2.0±0.2 mg daily; or wherein the subject weighs from 40 to 60 kg and the amount of palovarotene administered to the subject is 4.0±0.4 mg daily; or wherein the subject weighs more than 60 kg and the amount of palovarotene administered to the subject is between 2.0±0.5 and 6.0±0.5 mg daily; or wherein the subject weighs more than 60 kg and the amount of palovarotene administered to the subject is 2.5±0.25 mg daily, or wherein the subject weighs more than 60 kg and the amount of palovarotene administered to the subject is 5.0±0.5 mg daily.